

JP 0057062927 AA

F02B 31/00

F02M 35/10

Anmeldenummer:

Anmeldedatum: 4.10.1980

Publikationsdatum: 16.4.1982

Prioritäten:

Land	Datum	Nummer	Art
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Erfinder: NAKANISHI KIYOSHI

OKUMURA TAKESHI

INOUE TOKUTA

Anmelder: TOYOTA MOTOR CORP.

Titel: SUCTION DEVICE FOR INTERNAL COMBUSTION ENGINE

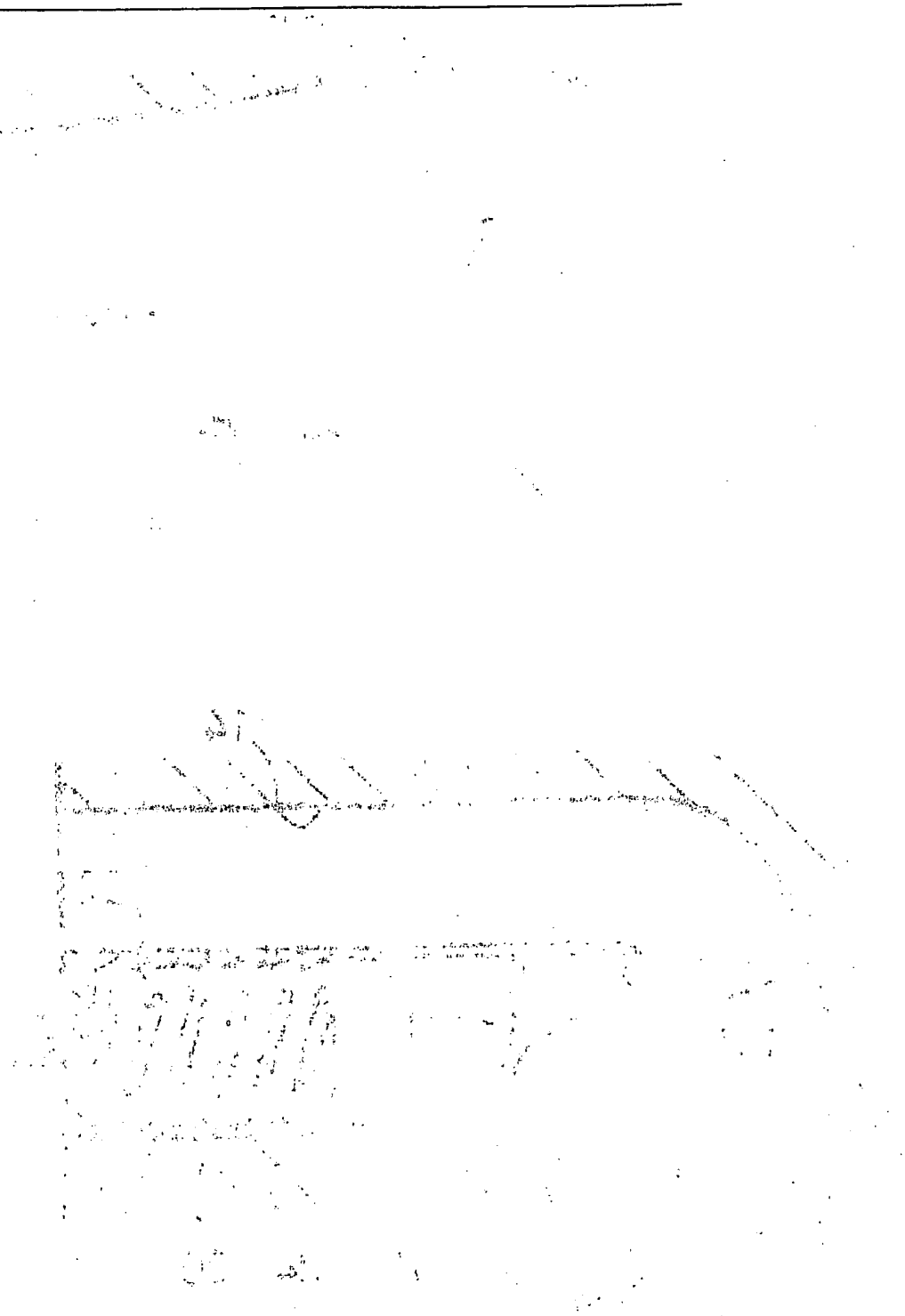
Zusammenfassung

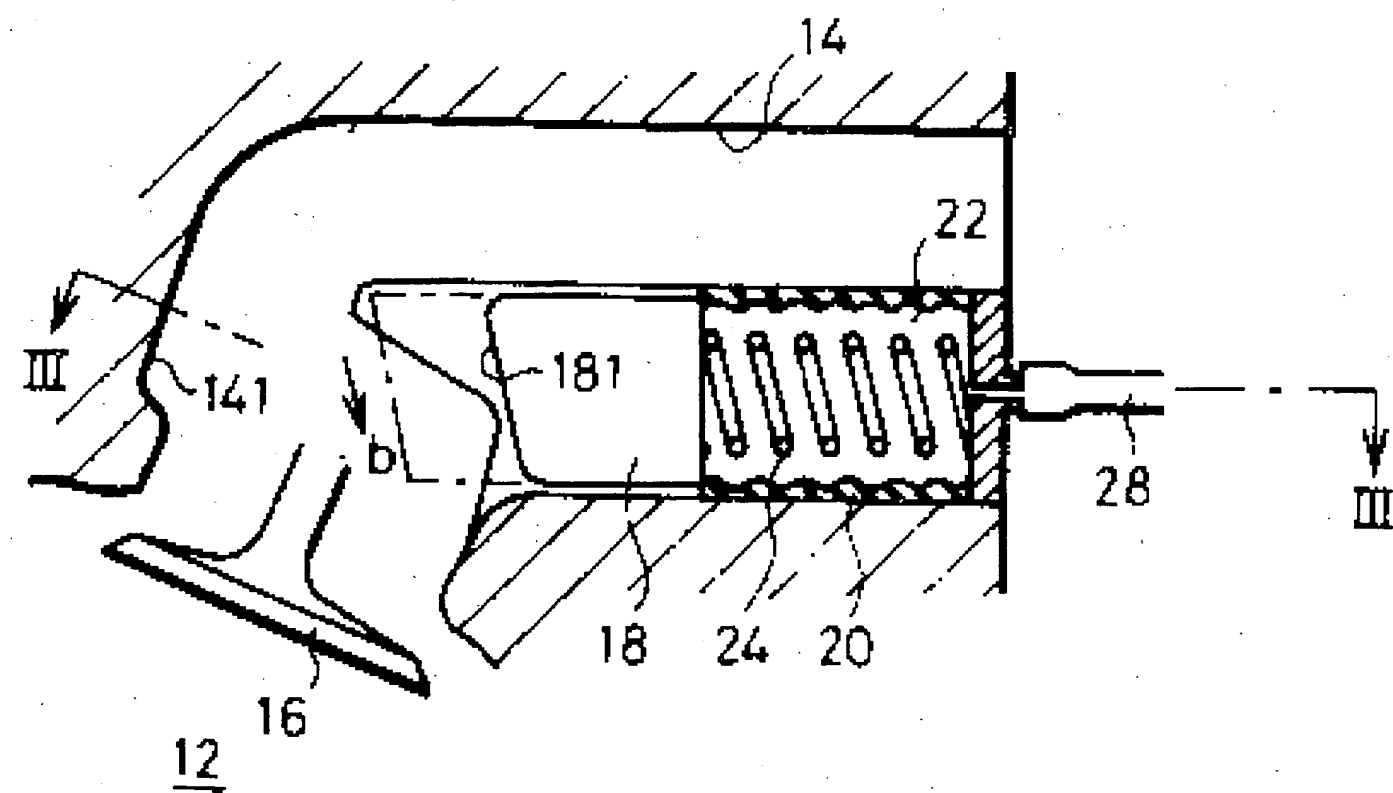
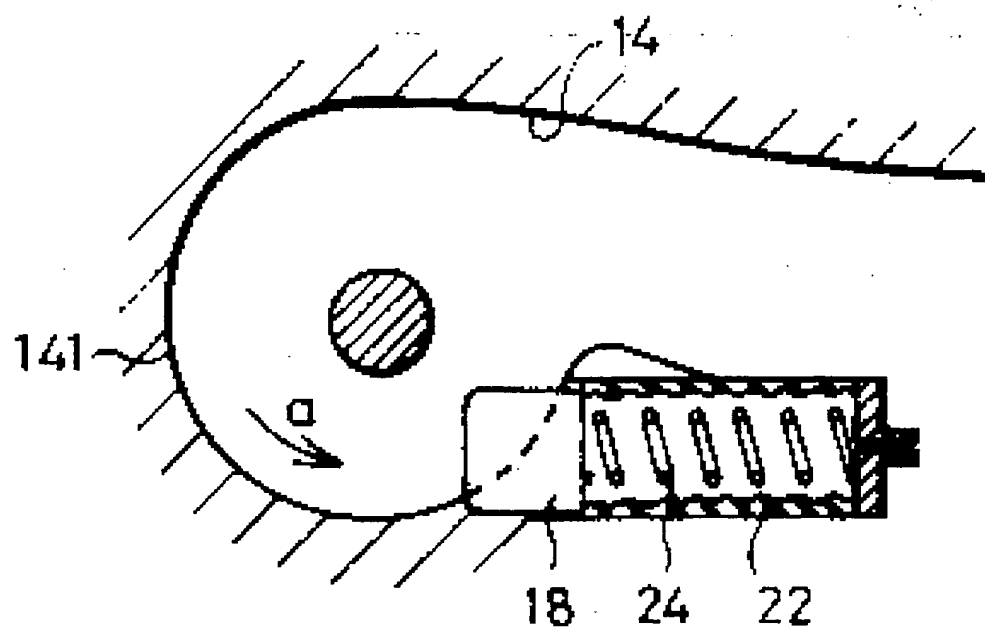
PURPOSE: To obtain the swirl intensity suitable for engine operating conditions in an internal combustion engine including a helical intake port by a device wherein a movable swirl control member is provided at the final end portion of the helical port and then varied in its position in response to the engine operating conditions.

CONSTITUTION: A final end portion 14 of a helical intake port 14 on the side of a combustion chamber 12 is shaped into a spiral form, so that mixture gas introduced into the combustion chamber 12 is swirled. A sliding member 18 serving as a swirl control member is provided at the inner wall of the final end portion 14. The sliding member 18 has at its front end an inclined surface 181 and at its rear end a negative pressure chamber 22 which is formed of a rubber member 20 adapted to enclose the chamber and which has a spring 24 housed therein to cause the sliding member 18 to move back and forth. While an engine operates at a low/middle speed and low/ middle load a negative pressure at a negative pressure port of an intake manifold 16 is introduced into the negative pressure chamber 22 by a control device through a piping 28, so that the sliding member 18 is withdrawn. Whereas, while operating at a high speed and high load, introduction of the negative pressure is interrupted to cause the sliding member 18 to protruded. Thus, it becomes possible to improve the combustion characteristics and suction efficiency in response to the respective engine operating conditions.

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